

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 20 JUL 1942

Date of writing Report 19 When handed in at Local Office 17 JUL 1942 Port of SUNDERLAND.

No. in Survey held at SUNDERLAND. Date, First Survey Dec 18 '41 Last Survey July 14 1942
 Reg. Book. on the s/s EMPIRE SOUTHEY (Number of Visits 72)

Built at Sunderland By whom built Short Bros Ltd. Yard No. 471 When built 1942

Engines made at do. By whom made N.E. Mar. Eng. Co. (1938) Ltd. Engine No. 4020 When made 1942

Boilers made at do. By whom made do. Boiler No. do. When made do.

Registered Horse Power Owners M.O.W.T (C. Runciman & Co Ltd) Port belonging to Sunderland

Nom. Horse Power as per Rule 510 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which Vessel is intended General

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 67

Dia. of Cylinders 24 1/2", 39", 70" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule appd. 14 1/2" Crank pin dia. 14 3/4" Crank webs Mid. length breadth — Thickness parallel to axis 9" as fitted 14 1/4" Crank webs shrunk Thickness around eye-hole 6 3/8"

Intermediate Shafts, diameter as per Rule appd. 13 5/8" Thrust shaft, diameter at collars as per Rule appd. 14 1/4" as fitted 13 5/8"

Tube Shafts, diameter as per Rule — Screw Shaft, diameter as per Rule appd. 15 1/4" Is the tube screw shaft fitted with a continuous liner? yes

Bronze Liners, thickness in way of bushes as per Rule appd. 13 1/8" 25/32" Thickness between bushes as per Rule appd. 21/32" Is the after end of the liner made watertight in the propeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner —

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive —

If two liners are fitted, is the shaft lapped or protected between the liners — Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no If so, state type — Length of Bearing in Stern Bush next to and supporting propeller 5' 1"

Propeller, dia. 17' 10 1/2" Pitch 15.6" No. of Blades 4 Material C.I. whether Moveable not Total Developed Surface 114 3/4 sq. feet

Feed Pumps worked from the Main Engines, No. — Diameter — Stroke — Can one be overhauled while the other is at work —

Bilge Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 27" Can one be overhauled while the other is at work yes

Feed Pumps { No. and size 2. 9 1/2" x 7" x 21" Pumps connected to the Main Bilge Line { No. and size 1, 10 1/2" x 13" x 24" & 1, 9 1/2" x 7" x 21" How driven Steam How driven Steam

Ballast Pumps, No. and size 1, 10 1/2" x 13" x 24" Lubricating Oil Pumps, including Spare Pump, No. and size —

Are two independent means arranged for circulating water through the Oil Cooler — Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room Eng. Rm. 2 @ 3" dia. Boiler Rm. 2 @ 3" dia. In Pump Room In Holds, &c. 2 @ 3" dia in each of Holds nos 1, 2, 3, 4 & 5. Tunnel well 1 @ 2 1/2" dia Dry tanks 2 @ 2 1/2" dia

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 9" dia. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 5" dia. & 1, 3" dia. portable Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-bores yes

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks yes

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Overboard Discharges above or below the deep water line both

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes

What Pipes pass through the bunkers mid bilge suction How are they protected bilge timbers

What pipes pass through the deep tanks Have they been tested as per Rule —

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door no worked from —

MAIN BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 7248 sq ft

Is Forced Draft fitted yes No. and Description of Boilers 3 Single Ended Cylindrical Working Pressure 220 lbs.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes

IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? —

Is the donkey boiler intended to be used for domestic purposes only —

PLANS. Are approved plans forwarded herewith for Shafting 2/10/41 Main Boilers 5/9/41 Auxiliary Boilers — Donkey Boilers —

Superheaters — General Pumping Arrangements — Oil fuel Burning Piping Arrangements —

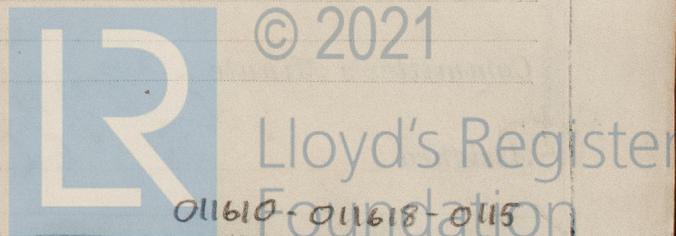
SPARE GEAR.

Has the spare gear required by the Rules been supplied yes

State the principal additional spare gear supplied

J. L. Smith RESIDENT MANAGER.

Manufacturer.



1941. Dec. 18, 20, 26, 27. Jan. 3, 12, 15, 23, 24. Feb. 3, 7, 12, 14, 17, 23, 25, 26. Mar. 8, 6, 13, 18, 23, 24, 25, 27. Apr. 1, 2, 8, 9, 10, 11, 13, 14, 16, 17, 20, 21, 22, 23, 24, 27, 28, 29, 30. May 1, 4, 5, 6, 8, 9, 11, 14, 15, 16, 19, 21, 22, 26. June 1, 2, 3, 4, 5, 6, 8, 11, 14, 23. July 7, 9, 12, 14.

Dates of Survey while building

During progress of work in shops - - -

During erection on board vessel - - -

Total No. of visits 73

Dates of Examination of principal parts—Cylinders 21, 28, 30/4/42 Slides 15/5/42 Covers 15/5/42

Pistons 27/4/42 Piston Rods 22/4/42 Connecting rods 29/4/42

Crank shaft 1/5/42 Thrust shaft 1/5/42 Intermediate shafts 3/6/42

Tube shaft — Screw shaft 16/5/42 Propeller 16/5/42

Stern tube 19/5/42 Engine and boiler seatings 19/5/42. Engines holding down bolts 3/6/42

Completion of fitting sea connections 19/5/42

Completion of pumping arrangements 23/6/42 Boilers fixed 23/6/42 Engines tried under steam 23/6/42

Main boiler safety valves adjusted 23/6/42 Thickness of adjusting washers Port 5/16"; Centre 3/8" dia.; 1 1/2" port; Star. 3/8"

Crank shaft material Steel Identification Mark 5516 Thrust shaft material Steel Identification Mark 5554

Intermediate shafts, material Steel Identification Marks 5540(2) Tube shaft, material — Identification Mark —

Screw shaft, material Steel Identification Mark 5554 Steam Pipes, material Steel Test pressure 660 lbs. Date of Test 11.6.42

Is an installation fitted for burning oil fuel NO ✓ Is the flash point of the oil to be used over 150°F. —

Have the requirements of the Rules for the use of oil as fuel been complied with —

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo NO ✓ If so, have the requirements of the Rules been complied with —

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with Not required.

Is this machinery duplicate of a previous case YES If so, state name of vessel Empire Beats

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under special survey in accordance with the approved plans, Secretary's letters and the requirements of the Rules. Workmanship and materials are good. The machinery has been efficiently fitted on board and tried under working conditions with satisfactory results and is eligible, in my opinion, for the ✓

NOTATION + L.M.C. 7.42., G.L., 39.B. 220 lbs F.D.

L. D. Horne

The amount of Entry Fee ... £ 6: : : When applied for, 7 JUL 1942

Special Specification ... £ 100: 10 : : When received,

Donkey Boiler Fee ... £ 25: 2 : :

Travelling Expenses (if any) £ : : : 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 24 JUL 1942

Assigned J.D., C.L.



SUNDERLAND

The Surveyors are requested not to write on or below the space for Committee's Minute.